

## APPENDIX T

### SPECIFIC EMISSION EVENTS

With respect to the emission events identified below, entry of this Consent Decree shall resolve all civil and administrative liability for all reporting, regulatory and/or permit violations for the emission events identified below as of the Date of Lodging or the relevant Post-Lodging Compliance Date(s), if applicable.

#### Port Arthur Refinery

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
WWTU RTO		1/19/1997 through 1/30/98	Upsets at the Waste Water Treating Unit Thermal Oxidizer on the following dates: 1/18/97, 2/24/97 through 3/3/97, 9/4/97, 11/5/97, 11/12/97, 12/15/97, 12/23/97, 1/21/98, and 1/30/98.	
1241FCC CO9 Boiler	E-02-CO9	12/6/1998	Upset emissions, including CO.	
SRU		12/20/1998	Emissions event exceeding permit limits for the unit	
DCU 842	#15 Flare FIRE	12/23/1998	Emissions event exceeding permit limits for the unit	
HFAU-443; H-1; AVU 146; BH16	E-01-443; E -02-146; E-03-16BH	12/14/1999 through 12/18/1999	failure to comply with permit limits at several units	
9CO; 1241 FCC		12/17/1998 through 12/18/1998	Emissions associated with replacing tubes in soot blower.	23.5
842DCU; 542 SRU	#15 FLARE	12/20/1998	Level control valve needed cleaning and repairs. Caused 3.5 hr upset at 842DCU and 5 hour upset at 542 SRU.	5
542 SRU	E-15-FLARE	1/4/1999	Acid gas flaring event	
	E-01-1344	2/2/1999	Emissions event exceeding permit limits for PM emissions.	
1241FCC		5/11/1999	Lost all the DCS system on 1241 FCC Unit ,the unit lost control of flow rates and a revise flow occurred causing the unit to flare wet gas and absorber gas. The pilot light on # 22 flare had a flame out for one hour while 1241 FCC Unit was in the flare.	4.25
Precip Stack	Precip Stack	6/17/1999	Low feed rate upset emissions and failure to report	
Refinery		8/14/1999 through 8/18/1999	Refinery was hit by a electrical storm, storm knocked out all power to refinery, all units were forced to have an emergency shut down, all unit process gases had to be flared.	96

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SRU-544/SRU 543/GFU244		8/20/1999	The sulfur recovery system received liquid hydrocarbon contamination in the acid gas feed from FCCU 1241. This upset is causing sour gases to be routed to the fuel system.	11
#9 CO Boiler	E-02-CO9	1/18/2000 through 1/28/2000	# 9 CO Boiler split tube forcing Blr S/D and diverted CO off 1241 FCC to Stack and the Electrostatic Precipitator is also out of service as a result of 9CO Boiler shutdown.	240
FCC-1241	Bypass Stack	4/8/2000	FCC 1241 Unit lost the aeration air to the standpipe when a valve was inadvertently closed to pull a safety at SGRU1242, the same line supplied air to FCC 1241 aeration air line, the lost of air causing a reverse flow of charge and particulate to go out the by-pass stack to the atmosphere.	0.17
842 D.C.U.	F-15-FLARE	6/5/2000 through 6/6/2000	Wet gas compressor 104-J tripped out, resulting in flaring acid gas to #15 flare.	10.5
842 D.C.U.	F-15-FLARE	6/14/2000	104-J wet gas compressor tripped, resulting in flaring wet gas to flare.	1
544 SRU	# 5 Flare (E-05-FLARE)	7/20/2000	SRU 544 Trains 400 & 500 automatically shut down due to the loss of water to the high pressure boiler at the 400 train. As operators were attempting to increase water supply to the 400 train, the 500 lost the water supply to its high pressure boiler causing and automatic shut down of the unit. SRU 543 continued to operate, however, the H2S load on SRU 544 was routed to flare 5.	1.5
544 SRU	# 5 Flare (E-05-FLARE)	7/23/2000	Thunder storms damage a sub-station causing the SRUs to lose electrical power to its pump out pits pumps and charge was reduced to avoid the pits over flowing, went to the flare to reduce charge to units.	0.25
842 D.C.U.	#15 Flare	9/8/2000	104-J wet gas compressor shutdown.	2.3
842 D.C.U.		9/20/2000	DCU 842 wet gas compressor shut down and flaring.	
CO 9 Boiler	CO 9 Boiler stack	10/16/2000 through 10/17/2000	Number 9B fan had to be taken out of service due to high vibration. Stack had to be open to the atmosphere to take the electrostatic precipitators out of service. The CO remained in the boiler and only the 40% particulate going to the atmosphere.	5
843 D.C.U.		11/30/2000 through 12/3/2000	DCU 843 wet gas compressor shut down and caused flaring of wet gas to Flare 23.	72
SRU-544 400Train	#5 FLARE	12/8/2000	Lost boiler feed water level in 401C Boiler causing SRU 544, 400 Train to shut down, the lost of boiler feed water was caused by high pressure in refinery H2S system and possible high levels of hydrocarbons in the H2S systems	1.9
9CO Boiler and ESP		12/27/2000 through 1/12/2001	9CO Boiler and Electrostatic Precipitator Shutdown	
544 SRU	E-05-FLARE	12/27/2000	843 DC Unit sending hydrocarbon caused 544 to shutdown 402-B	1.5

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
545 SRU		1/29/2001	SRU -545 unit upset flaring acid gas.	8.08
843 DCU		1/31/2001	DCU 843 unit upset and flaring	
843 DCU		2/2/2001	DCU 843 unit upset and flaring	
FCCU 1241 ESP		3/15/2001 through 3/19/2001	FCCU 1241 Electro-Static Precipitator shutdown was due to an air blower malfunction.	110
SRU 545	E-03-SCOT	4/1/2001	Discharge of Sulfur Dioxide and Hydrogen Sulfide from unit occurred.	
Fuel Gas System	Fuel Gas System	10/12/2001	1241 FCC Amine Unit upset due to low Amine Titration	11.0
FGMD	F-FGMD	10/23/2001	FGMD out of compliance intermittently thru the shift due to upset on GFU-244 Amine Contactor.	10.3
AVU-146	F-19-FLARE	11/29/2001	A check valve failed in the open position. This allowed vacuum off-gas to be recalculated back to the suction of the compressor, which increased the compressor suction pressure, tripped the compressor and flared off-gas.	7.48
SRU-543/4	E-01-SCOT	11/30/2001	Boiler leak shut down 400 Train which pressured up Scot 1 stripper, vented to the flare.	0.1
DCU-843	E-23-FLARE	12/2/2001	Operator cracked Absorber Gas to 23 Flare to prevent pressure build up on Absorber Scrubber.	0.25
544, 500 train	402- B incinerator	12/4/2001	High refinery H2S make caused 500 train to go off ratio and caused SO2 to be as high as 2000ppm.	4.5
FCC-1241	F-1241	12/15/2001	Loss of differential pressure on "A&B" stand pipe. Change in the differential pressure on "A&B" stand pipe was observed on the DCS at the following times: 08:30, 13:48, 17:19, 17:38, 22:14, & 22:33.. Visible emissions were observed during the following times: 08:18-08:28, 13:40-13:45, & 14:40-14:45.	14.25
FCC-1241	F-1241	12/16/2001	Loss of differential pressure on "A" stand pipes. Change in the differential pressure on "A" stand pipe was observed on the DCS at the following time:11:38. Visible emissions were observed during the following times:12:15 to 12:25, 12:35 to 12:45, 12:55 to 13:05, 13:20 to 13:30, and 21:07 to 21:15	9.62
DCU-843	E-23-FLARE	12/22/2001 through 1/5/2002	Pluggage in the overhead condenser for D6600 (propane/butane splitter) at DCU 843 caused over-pressuring in the tower. A portion of the splitter overhead was sent to Flare 23 to maintain adequate pressure in the tower.	348.23
DCU-843	E-23-FLARE	12/25/2001	Suspected composition change (lighter ends) in the feed to the debutanizer caused a rapid increase in pressure on the tower. The pressure increase resulted in a PSV opening allowing debutanizer overhead gasses to the flare	2.75
DCU-843	E-23-FLARE	1/1/2002	Upset occurred at Delayed Coking Unit 843 and Hydrocracker Unit 942.	7.83

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
DCU-843	E-23-FLARE	1/2/2002 through 1/9/2002	An unexpected inability to transfer sour fuel gas to SGRU-1242 from DCU-843 and HCU-942 necessitated flaring at 23 Flare.	168.00
DCU-843	E-23-FLARE	1/3/2002	Unexpected high amounts of light end feed from AVU-146 (lost vacuum) resulted an increase in naphtha distillate and wet gas make. Excess wet gas required emergency flaring.	2.47
DCU-843	E-23-FLARE	1/4/2002	AVU 146, E-101exchanger had to be bypassed because of a leak. This resulted in high fuel gas make at DCU 843 and necessitated flaring at Flare 23.	0.58
SRU-544	E-05-FLARE	1/7/2002	SRU-544 Train 500 tripped off due to unexpected low combustion air flow on 401-JA air blower.	0.0
843 DCU	E-23-FLARE	1/13/2002	Debutanizer's SRV lifted when hit with light ends, resulting in smoking flare #23.	7.75
AVU-146	F-19-FLARE	1/14/2002	Fuses to main switchgear for P-110-B HDF product pump blew. Electricians had to kill 2300 to buss and started assessing electrical to other switchgear on this buss.	3.1
R.F.G. Sys.	Ref. Fuel Gas	1/30/2002	S.G.R.U. 1242s amine treater was overloaded with gas make from P.A.C.C.	2.0
DCU-843	E-23-FLARE	2/12/2002 through 2/25/2002	Flared sweet P-P from PSV-733.	309.50
COOLING TWR	E-432-CT	2/19/2002 through 3/11/2002	Leak in Debutanizer Overhead Exchanger C-6500.	475.58
HFAU-443	6341 LHSU SRV, F-15-Flare	3/11/2002	Excessive Propane in the Butane stream to 6341 LHSU pressured up the tower causing the SRV to open up.	0.25
WWTU-8742	E-01-T01	3/14/2002	Damper control arm linkage broke.	8.42
SRU-543/4	FU-SCOT	3/16/2002	F-402B has been intermittently out of compliance on SO2 emissions. The cause is thought to be feed related. The SO2 emissions reached @300ppm at its highest point.	5.6
843, 942, 545	E-23-FLARE, E-05-FLARE, E-02-SCOT, E-03-SCOT	3/19/2002 through 3/23/2002	Entergy (our third-party energy provider) experienced a power failure leading to several process unit shutdowns and upsets at Premcor.	126.92
SRU-543/4	E-02-SCOT	4/14/2002	Line Pressure to unit jump up faster than instruments could react and Scot II went out of ratio.	0.5

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SRU 545	E-03-SCOT	4/16/2002 through 4/17/2002	Amine tower puked causing SO <sub>2</sub> s to exceed. First time was from 21:15 to 21:35, then 22:25 to 22:50, then from 00:15 to 01:05	3.8
WWTU-8742	E-01-T01	4/19/2002	Regenerative thermal oxidizer at WWTU-8742 unexpectedly ceased operation due to failure of the oxidizer's thermal sensing device.	7.20
WWTU-8742	E-01-T01	5/4/2002	RTO shut down due to low level in the seal drum.	16.32
HCU-942	E-23-FLARE	5/7/2002	Hydrocracking Unit 942 experienced an upset due to the unexpected tripping of the K-2100 hydrogen recycle compressor.	8.03
SRU-543/4	E-05-FLARE	5/11/2002	Booster air blower for Scot 2 tripped out due to electric motor over amped and turbine spare did not get up to speed soon enough and caused 544's 400 and 500 train to shut down, resulting in acid gas line pressure to rise and this resulted in flaring H <sub>2</sub> S to #5 Flare. Also incinerator 402-B went out of compliance on SO <sub>2</sub> , due to opening acid gas recycle to 100% while trying to get booster blower(s) started.	1.00
FCC-1241	Refinery Fuel Gas	6/7/2002	FCC 1241 had their amine system try to puck over and caused the absorber gas to run high on PPM H <sub>2</sub> S, absorber gas is being spilled to refinery fuel as Chevron / Phillips Co. is not taking the full stream. The fuel system was out twice, from 11:34A.M. to 1:20 P.M. and then from 3:07P.M. to 4:41P.M..	5.1
WWTU-8742	E-01-T01	6/20/2002	RTO unexpectedly shutdown due to an electrical failure after technicians replaced the high vibration kill-switch.	1.08
WWTU-8742	E-01-T01	6/30/2002 through 7/1/2002	Reactive Thermal Oxidizer was shut down due to high bed temperatures.	36.67
SGRU-1242	E-103-Flare	7/1/2002	S.G.R.U. 1242's wet gas compressor K-2300-A shut down on suspected first stage high pressure, resulting in flaring wet gas to B-103 flare to control unit pressures on S.G.R.U. 1242 and A.V.U. 146.	1.10
SRU-545	E-03-SCOT	7/2/2002	Amine unit upset.	9.6
AVU-146	F-19-FLARE	7/6/2002	Crude unit AVU 146's feed composition lighten up and produced too much wet gas for S.G.R.U. 1242's wet gas compressor to handle. Too prevent K-2300-A from tripping off, started flaring to #19 flare.	5.77
SCOT II	FU-SCOT	7/8/2002 through 7/12/2002	Ratio analyzer on the 400 and 500 trains are not working.	100.0
WWTU-8742	E-01-T01	7/13/2002	Lightning strike caused loss of signal from RTO in the Control Room. Changing out communication card between RTO and Control Room tripped the RTO off line.	0.43

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SCOT II	E-02-SCOT	7/14/2002 through 7/19/2002	Ratio analyzer on the 400 and 500 trains are not working properly.	122.2
SRU-545	E-03-SCOT	7/15/2002	High Pressure Boiler Water Feed Pump was unexpectedly lost, resulting in a temporary shutdown of SCOT III Tail Gas Incinerator.	13.77
WWTU-8742	E-01-T01	7/18/2002	Regenerative Thermal Oxidation Unit was shut down to perform maintenance work.	2.47
Sphere 2156	F-17-FLARE	8/3/2002 through 8/4/2002	Sphere 2156 was receiving Isobutane from terminals on two lines. A pipe line batch was being received on the 6" line and truck deliveries were being received on the 4" line. Combined rate of isobutane caused the sphere to reach design operating pressure and regulator opened to flare to control sphere pressure.	9.50
DCU-843	E-23-FLARE	9/11/2002 through 9/17/2002	Unexpected control issues with the wet gas compressor at DCU-843 resulted in safety off-gassing of wet gas to the flare 9/11/02 12:15 - 12:47 pm. The subsequent interruption of fuel gas generation at 843 resulted in interruption of normal fuel flow to process heaters at 843 and 942. SRU-545 SCOT III foamed slightly due to the upset at 843. Minimal additional flaring of wet gas took place on 9/17/02 and 9/18/02 while vendor representative adjusted the compressor controls, bringing final closure to the upset.	163.83
SRU-543/4	E-05-FLARE	10/7/2002	A fuse blew on 400 Train Main Air Blower causing additional controls to trip on the same PLC due to increased voltage. This caused 400 and 500 trains to go down therefore sending acid gas to Flare #5.	0.20
SRU-543/4	E-02-SCOT	10/8/2002	The flame on 402-B Incinerator went out due to the main air regulators on 400 and 500 trains causing excessive high temperature at SCOT II.	0.75
DCU-843	DCU-843E-01-02-02-843	10/14/2002	The amine temperature was low and did not allow for proper treatment of the fuel gas in the fuel gas scrubber. The fuel gas was above 80ppm from 4:05am to 6:07am and 6:32am to 7:34am. BTU value was 1165 and the ppm was 221 and 282.	3.5
DCU-843	E-01-02-03-843	10/15/2002	Amine temperatures dropped too low during cold rain storm.	0.7
DCU-843	E-01-02-03-843	10/16/2002	Amine temperatures dropped too low during the cold night.	0.6
DCU-843	DCU-843 E-01-02-03	10/16/2002	Temperature of amine dropped causing a failure to treat fuel gas.	0.4
SRU-545	E-01-SCOT, E-03-SCOT, FLARE-05	10/29/2002 through 10/30/2002	Analyzer maintenance unexpectedly triggered a shutdown of incinerator H-9002. Subsequent backpressure upstream of the incinerator due to a diverter valve malfunction caused a safety shutdown of Trains 100 and 200 of SRU-545. Acid gas normally charged to 545 was immediately diverted to SRU-543 and SRU-544, resulting in flaring at Flare#5 (10:47 am - 12:30 pm) and temporarily disabled incinerator 402-B (10:57 am - 11:24 am).	19.22

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SRU-544	E-02-SCOT, E-05-Flare	10/29/2002	An unexpected loss of excess oxygen due to a malfunctioning pressure controller (PC0424) caused both 400 and 500 trains at SRU 544 to reduce the available processing capability. Recycle H2S was sent to Flare #5 from the SCOT Unit.	1.37
SGRU-1242	F-103-FLARE	10/29/2002 through 10/30/2002	Lost the motor on P-2825B reactivator pump due to bad bearings. P-2825A had been pulled that morning and is already in the shop having the bearings replaced.	16.58
SGRU-1242	F-103-FLARE	10/31/2002 through 11/3/2002	Gas to the 2300 A & B compressors was light and during switching of compressor lost suction for a short period of time causing wet gas to be flared. Also during this time the volume of wet gas to compressor was low.	100.23
FCC-1241	F-22-FLARE; E-01-ESP	11/13/2002	An unreportable FCC Unit reverse flow upset occurred at 7:45 am to 7:47 am. Total duration 2 minutes and opacity was 100% from E-01-ESP. After this upset reverse flow, the air line to HC-1602 broke and caused the regulator to close. The tower over-pressured and the safety paid off to the flare from 9:05 am to 9:48 am.	0.72
SCOT III	FU-SCOT	11/21/2002 through 11/22/2002	9002 Incinerator stack went out of compliance at approximately 11:45. Operators can not find any indications on the unit to suggest a reason for this excursion. The only change was they had just put the sour water stripper in service and they lost temperature indicators on both the 100 and 200 train reactors. There were visible emissions to the Sulfur Pit Stack.	16.9
WWTU-8742	E-01-T01	11/22/2002 through 11/24/2002	The hydraulic cylinder on the damper arm failed at the RTO. Downtime periods: 11-22-02, 10:31pm to 11-23-02, 6:30pm; 11-24-02, 7:33am to 11-24-02, 2:37pm.	29.60
WWTU-8742	E-01-T01	12/3/2002	Flame safety trip of the No. 2 burner due to control valve malfunction of a gas valve indicator.	14.10
SGRU-1242	F-136bCT	12/5/2002 through 12/31/2002	Cooling towers sampled during TCEQ inspection revealed potential leaking exchangers at SGRU-1242. Subsequent review by operations personnel and EFSI (third party contractors) quickly detected a leak at C-2350 C/D HP Separator Cooler.	634.48
SRU-543, SRU-544 (400 TRAIN)	E-05-FLARE, E-01-SCOT, E-02-SCOT	12/23/2002	SRU-543, SCOT I, SRU-544 (400 TRAIN) and both incinerators (402B & F101) shut down due to electrical circuit failure. The failure may be weather related. H2S was flared at Flare No.5.	1.07
SRU-543/4	E-05-FLARE, E-01-SCOT E-02-SCOT	12/29/2002	SRU 543, SCOT I, SRU 544 (400 Train), the Sour Water Stripper, and both incinerators (402B & F101) shut down due to electrical circuit failure.	0.78
WWTU-8742	E-01-T01	12/29/2002	A loss of power caused the air blower, KM-5001B to shutdown which resulted in a loss of air to the seal drum. Please refer to the attached investigation report.	2.90
DCU-843	E-01-02-03	12/31/2002	Temperature fell off on circ.amine	0.9

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
DCU-843	E-01-02-03-843	12/31/2002	Amine unit over loaded.	0.3
SRU-543/4	E-05-FLARE	12/31/2002	Lic-710A/B malfunctioned and caused SWS to S/D. PIC-722 closed off and had trouble re-setting and caused to pressure up and go to flare.	4.15
47 Pump House	F-PH41	1/8/2003 through 1/9/2003	Temporary 6 Fuel pump and associated piping was involved in 3-alarm fire.	0.97
GFU 243	E-20-FLARE	1/13/2003 through 1/27/2003	SRV-30 on the amine regenerator was leaking to the No. 20 flare. It was determined that an improperly installed O-ring caused the leak.	338.00
FCC-1241	F-22-FLARE	1/22/2003	Emergency flaring from the P-P Contactor occurred due to unexpected pluggage in the P-P product line at FCC-1241 during normal contractor (Nalco) caustic injection. Flared P-P product from 8:40 pm until 9:30 pm due to the unit pressuring up and line plugging.(200 bp/h for 50 minutes).	0.83
WWTU-8742	E-01-T01	4/7/2003	The Regenerative Thermal Oxidizer at WWTU-8742 unexpectedly shutdown.	1.87
GFU-243	F-FGMD	4/10/2003	Fuel Gas Mix Drum when out of compliance due to problems at GU-243 amine treating system.	3.00
GFU-244	F-02-FLARE	5/12/2003	Safety relief valve #621 off the Hot High Pressure Separator opened to #2 Flare.	0.13
AVU-146	F-19-FLARE	6/3/2003	Power outage on the south side 480 Volt buss in the MCC room. Wiring from the buss to the line side of three breakers shorted to ground or phase to phase causing an arc that took out a total of four starters. This, in turn, over-amped the main line breaker and tripped the buss.	0.95
WWTU-8742	E-01-T01	6/19/2003 through 6/20/2002	The Regenerative Thermal Oxidizer experienced an emergency shutdown.	21.30
SRTF	F17FLARE	6/23/2003	Maintenance at pump J-15 (pump casing prepared for pulling) required venting to flare product butane via 1" line.	1.00
SRU-543/4	E-05-FLARE	7/24/2003	An unexpected reduction of instrument air system pressure resulted in a brief flaring event at SRU-544.	0.23
WWTU-8742	E-01-T01	8/1/2003	Regenerative Thermal Oxidizer at WWTU-8742 experienced an unexpected high temperature shutdown alarm in the RTO retention chamber.	13.05



Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SRTF	F17FLARE	8/14/2003	About 2 and a half hours after receiving ISO and while still receiving excess C4 raffinate from 443 Alkylate Unit, the pressure on M-3 drum (high pressure accumulator) went from 82 to 95 pounds. This increase caused the flare regulator to open to lower the pressure. The regulator would open for about 1 minute and stay closed 2 to 10 minutes during the duration of this incident. M-3 drum pressured up again tonight at 10:30pm (2 hours after receiving ISO) and the regulator opened up to #17 flare.	6.00
SRU-545	E-03-SCOT	8/23/2003	H-9003 Incinerator out of compliance on SO2 from 3:45 am to 8:15 am due to low level in the Sulfur Pit and possible pit fire. Operators also checked the operations of the Amine System and found it to be functioning properly.	4.50
SGRU-1242	F-136BCT	9/4/2003 through 9/5/2003	A suspected leak in an exchanger on SGRU-1242 was indicated during the monthly testing using the El Paso method sampling by EFSI (third-party contractor)	25.00
SRU-543/4	E-05-FLARE E-02-SCOT	9/9/2003	SRU-544 Trains 400 and 500 unexpectedly ceased operations.	1.98
MC-24/25	MC-24/25	10/3/2003	The Marine Vapor Combustors MC-24 and MC-25 operated at 100% opacity for more than 6 minutes.	1.10
DCU-843, HCU-942, SRU-543, SRU-545, FCCU-1241, SCOT I, SCOT III	E-23-FLARE E-03-SCOT F-22-FLARE	10/14/2003	Both electrical feeds provided by Entergy to the refinery were lost as a result of a problem Entergy encountered. The power loss caused DCU-843 (Fin: DCU-843), HCU-942 (Fin: HCU-942), and SRU-545(Fin:SRU-545) to begin emergency shutdown procedures.	1.62
SRU-545	E-03-SCOT	10/22/2003	Train 100 shutdown at SRU-545. Excess emissions were documented at the incinerator at SCOT III (FIN:SCOT-III).	2.32
SRU-543/4	E-05-FLARE	10/29/2003 through 10/30/2003	Brief emergency flaring (approx. 10 minutes) resulted from an unexpected trip of SRU-544 400 Train.	5.10
HCU-942	F-942	10/29/2003 through 10/30/2003	Recycle Hydrogen Compressor at HCU 942 unexpectedly shut down. Recycle gas was routed to Flare No. 23 (FIN: F-23-Flare & EPN: F-23-Flare). In addition, HCU 942 (FIN = HCU-942) began shut down procedures by depressuring to Flare No. 23.	18.82
SRU-545	F-545-H2S	10/29/2003	SRU 545 200 Train developed a leak in an H2S nozzle to the Clause reactor. Please note that this event was initially reported to TCEQ together with a separate event at HCU-942.	0.90
SRU-543/4	E-02-SCOT E-05-FLARE	10/29/2003 through 10/30/2003	Brief emergency flaring (approx. 10 minutes) resulted from an unexpected trip of SRU-544 400 Train.	5.10

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
HCU-942	E-23-FLARE F-942	10/29/2003 through 10/30/2003	Recycle Hydrogen Compressor at HCU 942 unexpectedly shut down. Recycle gas was routed to Flare No. 23 (FIN: F-23-Flare & EPN: F-23-Flare). In addition, HCU 942 (FIN = HCU-942) began shut down procedures by depressuring to Flare No. 23.	18.82
SRU-545	E-05-FLARE	11/6/2003	Unexpected high pressure in acid gas line caused 100 Train of SRU-545 to trip on high burner pressure.	0.92
SRU-545	E-03-SCOT	11/15/2003	Scot III (544) amine titration got above 56 (48 normal). T-9003 (amine stripper) level too low.	8.25
FCC-1241; SGRU-1242	F-22-FLARE; F-103-Flare	11/23/2003 through 11/24/2003	The wet gas compressor at FCC-1241 experienced an unexpected malfunction which prevented its normal operation and necessitated emergency flaring.	20.37
BH-15	F-BH-15	12/4/2003	#89 fuel gas drum at 15 bh unexpectedly released to the atmosphere at PSV 89 from 2:35 pm to 3:00 pm. Expected cause is the loss of C-2A H2 booster compressor at 1344. Release was intermittent (combined duration of approximately 4 minutes).	0.42
AVU-146	F-19-FLARE F-103-FLARE	12/5/2003	Unexpected feed difficulties resulted in unavoidable flaring at SGRU -1242.	3.50
DCU-843	E-23-FLARE	12/8/2003	K6300 dump valve unexpectedly opened while shooting charge pump suction with 650# steam. Valve position records show intermittent flaring for this time.	0.45
SRU-545	E-05-FLARE E-02-SCOT E-03-SCOT	12/15/2003	100 Train at SRU 545 tripped due to loss of power to the burner control panel. This caused flaring at #5 Flare as well. The Flare did not smoke.	4.25
HCU-942	F-942	12/20/2003	A weld failure on a 6" recycle hydrogen line at HCU 942 resulted in emissions vented to the atmosphere.	15.00
T-2156	F-SRTF-BUT	12/23/2003	Maintenance personnel opened manway of TK 2156 after tank has been degassed and steamed. Butane vapors escaped from the open manway to the atmosphere.	1.27
HFAU-443	F-443	12/29/2003 through 1/1/2004	Light ends from 1242 resulted in minor intermittent flaring from 6341. Times are as follows: 12/29/03 11:55am -12:25 pm; 12:55 - 1:20 pm; 2:10 pm - 2:50 pm; 1/1/04 5:30 - 6:00 am; 8:50am - 10:05 am. Light ends are suspected from 1242. The unit is adjusting to revised operations while other refinery process units are undergoing planned turnaround activities.	70.17
AVU-146	F-19-FLARE	1/5/2004	The molecular weight of the gas feeding K2300B compressor decreased causing the compressor to not be able to maintain suction pressure.	0.63
AVU-146	F-19-FLARE	1/6/2004	P102 B Desalted Crude Charge pump tripped off resulting in the loss of flow to K2300B wet gas compressor. Wet gas was then routed to flare 19 from D-103.	0.38
SRU-543/4	E-05-FLARE	1/6/2004	High Line pressure resulted in flaring of acid gas.	0.23
LHSU 6341	F-443	1/6/2004	High pressure at Tower 6341 caused safety relief valves to lift resulting in emissions to the atmosphere.	0.17
AVU-146	F-19-FLARE	1/7/2004	Vacuum tower bottoms pump tripped resulting in flaring of vacuum off-gas.	3.50

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SRU-543/4	E-05-FLARE	1/8/2004	High acid gas line pressure resulted in flaring of acid gas at flare 5.	0.08
SRU-543/4	E-01-SCOT	1/18/2004	The incinerator, F-101, went out of compliance due to hydrocarbons being charged thru the SWS 8746 then on into the sulfur units.	4.27
SRU-545	E-05-FLARE	1/21/2004	200 Train tripped off line due to a bad fire eye.	0.25
SRU-543/4	E-05-FLARE	1/25/2004	SRU-544 An unexpected 1-alarm fire created a temporary interruption of communications between the burner panel and its PLC, resulting in a partial loss of the unit (500 Train).	0.65
FCC-1241	E-02-1241	2/3/2004 through 2/5/2004	Unexpected maintenance to clean and repair precipitator cells.	48.00
DCU-843	E-23-FLARE	2/12/2004	DCU-843 shut down due to plugged charge pump strainer.	1.50
FCC-1241	F-22-FLARE	2/15/2004	LT feed on charge to FCCU 1241 tripped stm reboiler to depropanizer (high pressure) resulting in flaring of P-P.	3.67
FCC-1241	E-01-ESP	2/17/2004 through 2/18/2004	Unexpected maintenance to repair broken wires	28.50
DCU-843	E-23-FLARE	2/17/2004	DCU-843 experienced an unexpected excess emissions event due to control issues with the debutanizer overhead equipment. Determined to be non-reportable.	0.08
FCC-1241	E-01-ESP	2/20/2004 through 2/22/2004	The precipitator cell needs to be opened in order to take measurements of the wires housed within. The measurements are necessary to be able to correctly order the 2,700 replacements. At the same time, any broken wires will be cut out.	36.00
BH-15	F-BH-15	2/21/2004 through 2/27/2004	Planned, temporary shutdown of 42 Boiler to conduct planned maintenance. During this time a fraction of the emissions from 1 Gas Turbine Generator (1GTG) will be directed to the atmosphere. These emissions are normally routed through 42 Boiler and/or 43 Boiler. 1GTG will itself be shutdown for maintenance. Total duration of estimated potential excess emissions is 144 hours.	144.00
CRU-1344	F-18-FLARE	2/24/2004	Please note that this emissions event has been determined to be non-reportable after refined engineering analysis. A mechanical failure inside V-1 reactor at CRU 1344 requires an immediate shutdown of the process unit.	0.33
FCC-1241	E-01-ESP	2/28/2004 through 3/13/2004	Maintenance is being conducted to clean and repair the precipitators. All of the 2,700 wires will be removed and replaced. Work will include internal repairs.	336.00
CO9 Boiler	CO9 Boiler Bypass Stack	4/1/2004 through 4/28/2005	Faulty seal gaskets on the bypass butterfly valve caused PM emissions to vent from CO9Boiler Bypass Stack.	

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	4/1/2004	Flare butterfly opened due to loss of signal to the Wet Gas	0.53
AVU-146	E-01-146	4/13/2004 through 4/14/2004	A fire developed in AVU 146 H-101 Atmos Htr due to a tube leak within the fire box. Some crude oil emerged from the tube into the firebox, causing a small fire and began smoldering. The fire was out by 3:15pm on 4-14-04 per Refinery Fire Department per	17.45
SRU-543/4; SGRU-1242	E-05-FLARE E-02-SCOT; F-103-FLARE	4/14/2004 through 4/15/2004	Unexpected difficulties with SRU-544 SCOT II occurred due to abrupt changes made to accommodate the shutdown of AVU-146.	22.67
WWTU-8742	E-01-T01	4/14/2004 through 4/15/2004	WWTU 8742- RTO went down @ approximately 7:39 pm due to burner failure on the RTO. RTO re-lit at 02:40	7.83
DCU-843	E-23-FLARE	4/16/2004 through 4/19/2004	BB normally maintained within the process equipment necessitated flaring due to the unexpected shutdown of AVU-146.	65.00
LHSU 6341	F-15-FLARE F-443	4/18/2004	Light feed introduced into LHSU 6341 caused the flare regulator to open to 15 Flare and a safety relief valve to open to the atmosphere.	0.58
FCC-1241	E-01-ESP	4/20/2004	Precipitators will be by-passed for 4 hours in order for electricians to change to power source to a temporary hookup. This is being done to facilitate the ground work for the wet-gas scrubber.	4.00
HFAU-443	F-13-FLARE	4/26/2004	An excessive amount of butane product was sent from SGRU 1242 to MRU 1242 as a result of losing the water wash pumps. The excessive flow overloaded the outlet piping system for T-114 Absorber Tower at MRU 7542 causing PSV-18 to pop to Flare No 13 to protect T-114 from overpressure.	0.32
CRU-1344	F15FLARE	5/2/2004	The depropanizer located at 1344 had unexpected operational issues which resulted in a high pressure condition and subsequent flaring from 6341.	1.33
FCCU	FCCU	5/5/2004 through 12/27/2004	6-minute opacity readings >31% as follows: May - 634 periods; June 576 periods; July - 835 periods; August 1046 periods; September 1280 periods; October - 1400 periods; November - 1741 periods; December - 1364 periods. Total - 8,876 periods.	
SRTF	F17FLARE	5/5/2004 through 5/6/2004	Unexpected flaring of product butane from single butane compressor at 138 PS due to issues with safety and/or control valve for compressor operation. 3 flaring events recorded: 5/5 9:24 pm - 10:15 pm; 5/5 10:50 pm - 5/6 5:00 am; 5/6 6:05 am - 7:30 am.	10.10
HFAU-443	F15FLARE	5/23/2004	Upset at 1242 SGRU caused light ends (propane) to get to 6341 De-isobutanizer. The tower (6341) was slumped (heat removed) on the earlier shift due to high pressure. During start-up (added heat) 6341 was vented to #15 flare from 7:30am to 7:55am and again from 8:05am to 8:20am.	0.83

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	5/30/2004 through 5/31/2004	Tray 20 on the Amine Contactor was plugged.	31.00
FCC-1241	E-01-ESP	6/7/2004 through 6/12/2004	The wet gas scrubber project requires a cutover of power to the ESP. The power to A & C cells will have to be cutoff and some electrical lines will have to be moved and power relocated. These lines must be moved to complete construction of the scrubber.	120.00
SRU-543/4	E-01-SCOT	6/8/2004	Erratic control of V-303 Stripper Tower.	3.38
AVU-146	F-19-FLARE	6/10/2004	AVU-146 Flaring Vacuum Tower Overhead. P-123B Primary Vacuum Bottoms Pump Turbine tripped due to a reduced available liquid volume of Vacuum Tower Bottoms in T-108 Tower Boot. This caused the pump to lose required suction pressure. This loss of suction pressure unloaded the steam driver and resulted in the turbine over-speed trip engaging as designed to prevent turbine damage.	0.43
FGMD	F15FLARE F-BH-15	6/14/2004	K-1900 Absorber Gas compressor was down at 1241 FCC for seal work.. The PSA unit went down at Air Products and the refinery fuel system strainer needed to be cleaned at SMR. The refinery fuel system over pressured and the fuel knockout drum safety lifted at 15BH (14:15 to 14:17). 15BH also flared their fuel gas knockout drum to #15 flare intermittently from 13:10 to 15:42.	2.53
ALKY	F-13-FLARE	6/17/2004	Excess amount of propane in the charge for the available cooling capacity.	6.25
DCU-843	E-23-FLARE	6/20/2004	Lightning strike shut down the Wet Gas Compressor.	0.27
FGMD	F15FLARE	6/21/2004	The Refinery Fuel Gas System pressured up during the heat of the day, the safety on DR-89 lifted for approximately 1 minute, and the flare regulator opened up to @ 15 Flare from 10:40 am to 12:45 pm. (BTU Value = 1107, H2S = 30 ppm's)	2.08
HFAU-443	F-244CT	6/22/2004 through 6/23/2004	E-16 isobutane cooler developed as slight leak. Discovery made at 6 am.	31.20
HCU-942	E-05-FLARE E-23-FLARE E-01-SCOT E-02-SCOT E-03-SCOT	6/24/2004 through 6/25/2004	Sour water and hydrocarbons from the cold high-pressure separator were unexpectedly sent to the product stripper at HCU-942 creating an upset on the amine contactor and stripper resulting in an increase in flow to SRU-545. 200 Train at 545 tripped on high	9.00
HCU-942	F-432CT	6/25/2004	Cooling tower sampling detected a slight leak. Further testing revealed this to be C6600.	5.57
HFAU-443	F15FLARE	6/28/2004	6341 De-isobutanizer was shutdown on day shift and back in start-up mode at 3:30pm. The light ends were flared off during start-up.	1.50
unknown	F15FLARE	6/30/2004	Visible Emissions were observed at 15 Flare. The source of the hydrocarbons is possibly either VOCs weathering off the knock-out drum or a valve in the flare header not holding.	0.22

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
HFAU-443	F15FLARE	6/30/2004 through 7/1/2004	6341 De-isobutanizer intermittently flaring propane from the overhead accumulator (V-3). The de-isobutanizer received a high concentration of propane from GRU-1242 earlier in the shift due to an upset at their site.	8.50
HCU-942	E-23-FLARE	7/10/2004 through 7/11/2004	Cut the Light Naphtha from D-1310 Fractionator Reflux Drum, and D-1260 Product Stripper Reflux Drum (38.3 B/H) to the Flare Drum and pumping the Naphtha to slop. Flaring off Naphtha, and flaring T-1510 Amine Contactor Overhead Gas (6.1 mmscf/d of sweet gas). This is due to SGRU-1242 shutting down for maintenance activities.	13.92
SCOT III	E-03-SCOT	7/14/2004 through 7/15/2004	Scot 3 stripper tower upset. Cooler on T-9002 scrubber running hot. Rolling average on CEMS spiked from 8:20pm to 8:24pm; 8:24pm to 8:52pm; 10:10pm to 11:26pm ; and from 11:50pm to 2:35am.	8.30
DCU-843	F-432CT	7/21/2004 through 7/27/2004	C-6600 C3/C4 splitter overhead condensers were found to be leaking.	144.82
HCU-942	E-23-FLARE	8/20/2004	Hydrocracking Unit 942 flared recycle hydrogen due to a high reactor bed temperature.	1.12
SCOT II	E-02-SCOT	8/26/2004	Adding fresh amine to SCOT II resulted in the amine cooling the tower causing the titration to go high. This resulted in SO2 in the SCOT incinerator stack to exceed the permitted allowables.	8.58
ALKY	F-13-FLARE	9/10/2004 through 9/11/2004	Leaking valve on E-20 Depropanizer OH Cooler resulted in the need to make repairs which required a reduction in charge to the Alky which resulted in the need to go to the flare.	24.00
SRU-545	E-03-SCOT	9/16/2004 through 9/17/2004	SRU-545: H-9002 Incinerator went out of compliance on SO2 & NO2 due to 200 Train air demand malfunction causing the SO2 break-through.	6.45
SRU-545	E-03-SCOT	10/8/2004	An FSC Trip on the high pressure boiler at 100 train caused the Claus unit to shut down. The start up of the 100 train resulted in intermittent visible emissions and SO2 concentrations greater than authorized at the tail gas incinerator.	5.75
HFAU-443	F-443 F-13-FLARE	10/13/2004 through 10/19/2004	HFAU-443: Leak discovered in a nozzle on T-6 Depropanizer Tower. (Leaking Propane, Butane, and HF Acid).	136.25
WWTU-8742	F-8742	10/17/2004 through 11/4/2004	Maintenance Emissions from Annual RTO TA.	430.22
SRU-545	E-03-SCOT	11/4/2004 through 11/5/2004	9003 incinerator in & out of compliance. Maint's worked ratio analyzer which was giving the unit problems. During the night shift operators added condensate to the amine to lower titration to help bring unit back in compliance.	15.72
SRU-545	E-03-SCOT	11/7/2004	Loss of C-9003 fin fan on T-9002 Absorber .	3.95

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
GFU-244	F-233PS	11/8/2004	A potential leak was discovered at M-302 fuel gas exchanger.	22.17
SRU-545	E-03-SCOT	11/8/2004 through 11/9/2004	H-9002 incinerator stack out of compliance on SO2 rolling average due to the lost of C-9002A1 fin fan.	9.15
HCU-942	E-23-FLARE	11/14/2004	SRV on D-1240 (cold low pressure separator) lifted prematurely.	0.37
HFAU-443	F-443	11/26/2004	Got light ends to 6341 De-isobutanizer. The tower pressured up and the safety popped at @128#.	0.82
DCU-843	E-23-FLARE	12/9/2004	Wet Gas Compressor tripped off line due to issues with the anti-surge valve.	11.77
DCU-843	E-23-FLARE	12/15/2004	A temporary electrical issue resulted in flaring of wet gas from DCU-843.	1.85
SCOT III	E-03-SCOT	12/25/2004	Low air flow indication to the incinerator caused the FSC to trip the Incinerator off line.	3.93
DCU-843 COOLING TWR	E-23-FLARE; F-432CT	12/30/2004	Operators bypassed C-6500 A/B Debutanizer overhead condensers due suspected leak. The condensers were flared via a one half inch line going to #23 flare.	4.50
Refinery	Refinery	1/6/2005	Intermittent flaring during unit shutdowns as part of a planned major turnaround. AVU-146 (EPN F-19-FLARE); sru 545 (epn e-03-SCOT), SGRU-1242 (EPNF-103-FLARE), AVU-146 (EPN F-19-FLARE), DCU-843 (EPN E-23-FLARE), SRU-543/4 (EPN E-02-SCOT).	
SRU-543/4	E-02-SCOT	1/7/2005	604 J lean amine pump shutdown causing excess SO2 at SCOT II.	3.25
FCC-1241	F-22-FLARE	1/17/2005	High liquid level in the wet gas suction drum caused the K-1300 wet gas compressor to shut down.	0.95
BH-15	E-02-BH15 E-03-BH15	1/20/2005 through 2/21/2005	Planned maintenance of Gas Turbine #1 at 15 Boiler house in conjunction with refinery-wide turnaround.	432
SCOT III; DCU-843; SGRU-1242	E-03-SCOT; E-23-FLARE; F-103-FLARE	2/4/2005 through 2/9/2005	Planned startup after planned major turnaround.	
SRU-543/4	E-01-SCOT	2/8/2005	Took large shot of hydrocarbons generated by SGRU-1242 during their unit start up. Their operator called and warned of the hydrocarbons but the affect still over powered the incinerator. Incinerator flamed out, temperature dropped below 1200° and the SO2 went above 250 ppm's.	1.32
SRU-543/4; SGRU-1242	E-02-SCOT; F-15-FLARE; F-1242	2/8/2005 through 2/11/2005	Took large shot of hydrocarbons generated by SGRU-1242 during their unit start up. Their operator called and warned of the hydrocarbons but the effect still over powered the incinerator. Incinerator flamed out, temperature dropped below 1200° and the SO2 content went above 250 ppm.	65.48

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
Refinery	FOP-O-02229	2/11/2005 through 6/16/2005	It was reported that between February 11, 2005 and June 16, 2005, there was 1,460 instances where the H2S content exceeded 100 ppm during sulfur loading operations.	
SGRU-1242	E-06-BH16 E-07-BH16	2/12/2005 through 2/13/2005	1242'S Gas foing to refinery fuel was off-spec on H2S and the fuel gas mix drum went above allowed limit on H2S. 243 GFU recycle gas high in H2S also. FGMD high on H2S from 6:15AM toO 7:15AM and 3:45PM to 3:18AM. Went high again at 8AM.	28.75
FCC-1241	F-22-FLARE	2/13/2005	K-1900 Absorber Gas Compressor tripped off line. Pressure built up on the 2nd Stage of the Wet Gas Compressor causing SRV 102 to lift to the Flare.	0.30
HFAU-443	F-13-FLARE	2/16/2005 through 3/30/2005	Intermittent flaring during unit shutdown as part of major planned turnaround. This includes the emissions from LHSU-6341 & MRU-7542.	
FGMD	F15FLARE	2/16/2005	Refinery Fuel Gas system is loaded due to loss of the Absorber Gas Compressor at 1241. All of the Absorber Gas production is going into the RFG system which over loaded the system. Flared RFG when the pressure exceeded the Flare Regulator set point.	9.77
FCC-1241; SRU-543/5; GFU-244; E-03-SCOT	E-01-ESP F-22-FLARE; E-01-SCOT; F-02-FLARE; E-03-SCOT	2/21/2005	These units were shutdown for a planned major turnaround.	
E-03-SCOT	E-03-SCOT	3/1/2005	Unit exceeded the 250 ppm SO2 emission limit	6.85
E-03-SCOT	E-03-SCOT	3/4/2005	Unit exceeded the 250 ppm SO2 emission limit	6.00
SRU-545	E-03-SCOT	3/8/2005 through 3/9/2005	A change in the characteristics of the feed to SRU-545 resulted in high concentrations of SO2 at the Tail Gas Incinerator.	18.83
DCU-843	F15FLARE	3/12/2005	Vent valves were inadvertently left opened when placing the P-P Skid in service resulting in flaring.	9.50
FCC-1241	F-22-FLARE	3/21/2005 through 4/2/2005	Startup of FCCU-1241 after a planned unit turnaround. The new Wet Gas Scrubber was also put into service.	282.00
FCC-1241	F-22-FLARE	3/27/2005 through 3/28/2005	Line split on cold feed inlet to unit. Charge forcibly reduced to accommodate resulting spill. Wet gas flared due to low flow to wet gas compressor.	28.00
Refinery	Refinery	4/1/2005 through 4/2/2005	During scheduled start-up emissions exceeded those submitted in the start-up notification report.	



Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	4/11/2005	Premature lifting of SRV resulted in flaring of sour PP from depropanizer reflux drum at FCCU-1241.	4.75
HFAU-443	F-13-FLARE	4/19/2005 through 4/20/2005	LHSU-6341 will be shutdown temporarily for LDAR repairs.	24.00
HFAU-443	F-13-FLARE	5/4/2005	LDAR VOC valve maintenance required shutting down of the 9A Isodryer.	3.17
HFAU-443	F-443 T-2401	5/6/2005	On 5/06/2005, at approximately 5:40 AM, operations noticed an odor near the control room of the Gulfiner Complex. The operators from the Gulfiner Complex noted the wind direction (easterly) and determined the possibility of hydrocarbon	5.87
SRU-545	E-02-SCOT E-03-SCOT E-23-FLARE	5/10/2005	SRU 545 - sponge oil was inadvertently pumped to SWS-8747 along with the sour water. These hydrocarbons partially vaporized and passed overhead into the Claus Units Trains 100 and 200 of SRU-545. The emergency shutdown of these units resulting in flaring and abnormal incinerator emissions.	5.37
AVU-146	F-19-FLARE	5/13/2005 through 5/20/2005	Flaring occurred due to a suspected trip of the C102 Vacuum Tower Offgas compressor.	180.67
HCU-942	E-23-FLARE	6/1/2005	PSV-292 on cold low pressure separator opened prematurely at 642 psig. The set point for this PSV is 715 psig. The cause for premature opening of PSV is under investigation and will be provided upon final notification.	0.33
FCC-1241	E-01-WGS	6/11/2005 through 6/13/2005	Sequence of Events: On Saturday, June 11, 2005, at approximately 7:05 PM, FCCU-1241 experienced an unexpected unit upset. DCS Board operations personnel received numerous process alarms indicating that K-1000B Air Blower had tripped and lost flow.	41.72
AVU-146; SGRU-1242	F-19-FLARE; F-103-FLARE	7/3/2005	Sequence of Events On Sunday, July 3, 2005 at approximately 8:53 a.m., the Crude Complex experienced an unexpected upset. Operators received a TDC 3000 alarm, alerting them that the K-2300B Wet Gas Compressor PLC shutdown had occurred at SGRU-1242.	0.82
WWTU-8742	E-01-T01	7/5/2005	Sequence of Events: On Tuesday, July 5, 2005, the RTO was planned to shut down due to a leaking hydraulic oil line. Maintenance and Operations met that morning to determine a course of action.	9.20
SRU-545	E-03-SCOT	7/7/2005	C-9002 Lean Amine fin fan shut down for maintenance work.	6.00
SRTF	F17FLARE	7/14/2005 through 8/9/2005	High pressure on M-1 Drum caused the flare regulator to open to Flare 03. Taking receipt of Iso-butane from Fanette which has propane in the mixture. Trucks hauling the isobutane to Fanette were found to be contaminated with Propane.	639.08
Refinery	FOP-O-02229	7/16/2005 through 1/15/2006	It was reported that from July 16, 2005 through January 15, 2006, there was 87 instances where the H2S content exceeded 100 ppm during sulfur loading.	

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
DCU-843	E-23-FLARE	7/22/2005	On Friday, July 22, 2005, HCU-942/SRU-545/DCU-843 Complex experienced an operational upset. The complex had suffered an interruption of UPS power in the control room at approximately 2:45 p.m. This resulted in the loss of the DCS.	1.45
HCU-942	F-432CT	7/27/2005 through 8/1/2005	Sequence of Events: On Wednesday 07/27/05, a third party emissions monitor, EFSI, was performing routine bi-monthly monitoring of CTU-432 when they detected VOC emissions at 11:43 AM.	121.15
SRTF	E-03-FLARE	7/27/2005 through 7/29/2005	Maintenance removed the flare regulator on M-1 Accumulator. The regulator was air tested at 130 psig and water tested on the back end to ensure it was bubble tight.	55.00
SRU-543/4	E-05-FLARE	8/9/2005	Sequence of Events: On Tuesday, August 9, 2005, at approximately 4:50 PM, SRU-543 shut down when an infrared temperature signal from Thermal Reactor D-204 malfunctioned.	1.07
CRU-1344	F-18-FLARE; F-360-PS	8/15/2005 through 8/19/2005	E-36 Exchanger at CRU-1344 developed a potential leak. The leak resulted in emissions through Cooling Tower 360.	96.17
BH-15	E-04-BH16	8/21/2005 through 9/8/2005	Planned maintenance will occur involving addition of the PACE steam supply line to 15BH. During this time the potential exists for a fraction of the emissions from 1 Gas Turbine Generator (1GTG) will be directed to the atmosphere intermittently. These emissions are normally routed through 42 Boiler and/or 43 Boiler.	432.00
FCC-1241	E-01-WGS	9/6/2005	A combination of the low bed temperature (1240-1250 degF) in the Regenerator and an imperfect air distribution (high excess O2 concentrations in the flue gas) are believed to have caused incomplete combustion. The incomplete combustion caused the CO concentration exiting the Wet Gas Scrubber to increase beyond permit limits.	7.00
SRTF	E-03-FLARE	9/17/2005	Propane/Propylene (PP) mix flared due to instrumentation issues with PIC-2134.	5.67
DCU-843	F-843	9/19/2005	A suspected electrical fire occurred on one of the coke drums.	1.00
SGRU-1242	F-103FLARE	9/22/2005 through 9/23/2005	The entire refinery was shut down as a precautionary measure for the passing of Hurricane Rita. These emissions are a direct result of the shutdown process.	21.00
Refinery	Refinery	9/22/2005 through 10/28/2005	The following are all the FINS included in this report: FCC-1241, FLARE-22, AVU-146, FLARE-19, SGRU-1242, FLARE-103, CRU-1344, FLARE-18, HFAU-443, FLARE-13, DCU-843, HCU-942, FLARE-23, HTU-245, FLARE-20, SCOT-I, SCOT-II, SCOT-III, WWTU-8742. The entire refinery was shutdown as a precautionary measure for the passing of Hurricane Rita. The emissions in this report are a result of the post-hurricane Startup.	858.00
CRU-1344	F-18-FLARE	9/28/2005 through 9/29/2005	Repair of E-36 A/B required purging of a small volume of vapors to the atmosphere. This event took place as follows: 9/28/2005 13:35-14:00 and 9/29/2005 08:00-08:05.	18.50

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
DCU-843	T-8432	9/30/2005 through 10/30/2005	Nitrogen release at roof of coker charge tanks T-108 and 109. Slight plume noted by TCEQ (Chris Mayben - Region 8) during drive by observations.	720.00
WWTU-8742	F-WWTU-8742	10/10/2005 through 10/14/2005	This is the result of a unit startup after the entire refinery was shutdown in preparation for Hurricane Rita.	88.00
SRTF	F17FLARE	10/14/2005 through 10/21/2005	High pressure on M-1 HPA for J-23 Compressor. Flare regulator open about 3%.	169.83
SGRU-1242	F-103FLARE	10/24/2005	On October the 24th, 2005 at approximately 12:47 AM, SGRU-1242s Wet Gas Compressor lost the capacity to compress wet gas into the Absorber Tower System. The Wet Gas Compressor went into a surge condition.	0.47
SRU-543/4 SRU-545	E-02-SCOT E-03-SCOT	10/28/2005	On Friday, October 28, 2005, SRU-545 Unit experienced an environmental release. The Incinerator emissions were above the limits from approximately 8:45 a.m. to 2:45 p.m. The Incinerator also had two visible emission periods.	14.40
SRU-545	E-03-SCOT	11/2/2005 through 11/5/2005	The emissions for this upset did not reach any Reportable Quantity (RQ), until approximately 10:56 PM on Thursday, November 3, 2005. On November 2, the amine system was being cooled by C-9002A/B Lean Amine Cooler.	73.05
BH-15	F-BH-15	11/2/2005	A wire was accidentally knocked loose from the natural gas controller in 16 BH Control Room. This caused the regulator to go wide open to the refinery fuel gas system. This caused the refinery fuel system to pressure up. The high pressure opened the flare line to 15 flare and lifted PSV-081-15BH on DR-89 Drum to the atmosphere.	0.20
SRU-545	E-02-SCOT E-03-SCOT E-05-FLARE	11/9/2005 through 11/10/2005	On Wednesday, November 9, 2005, SRU-544s SCOT II & 545's SCOT III Units incinerators experienced higher than normal SO2 emissions. The Incinerator emissions were above the SO2 limits for several hours. Also, Flare 05 was utilized.	16.53
SRU-543	E-01-SCOT	11/13/2005 through 11/18/2005	A new sulfur Claus unit, 300 train, was brought into service at the existing Sulfur Recovery Unit, SRU-543. Startup was completed safely.	120.00
WWTU-8742	F-WWTU-8742	11/16/2005 through 11/19/2005	On Wednesday, 11/16/05, the Regenerative Thermal Oxidizer (RTO) at the Wastewater Treating Unit 8742 (WWTU) tripped off at 11:24 PM. Notification was given to the operators through the first-out alert.	63.38
FCC-1241	E-01-WGS	11/17/2005 through 11/18/2005	On Thursday, November 17, 2005, at approximately 5:28 PM, FCCU-1241 experienced an unexpected unit upset. The DCS Board operator received a blower trip alarm. The alarm indicated that K-1000B Air Blower had tripped off.	18.00

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
SCOT I, SCOT II, SCOT III, SRU 454, SRU 544, SRU 543	E-23-FLARE E-01-BH15 E-03-BH15 E-01-SCOT E-02-SCOT E-05-FLARE E-03-SCOT	11/19/2005 through 11/20/2005	On Saturday, November 19, the refinery experienced an environmental upset. At approximately 10:20 AM both of the sulfur trains at SRU-545 tripped. Several restart attempts for both trains were unsuccessful.	36.77
DCU-843	E-23-FLARE	11/21/2005	On Monday November 21, DCU 843 experienced an operational upset resulting in flaring of sour liquid petroleum gas product from T-6500 Debutanizer Overhead Drum.	0.33
HCU-942	E-23-FLARE	11/22/2005 through 11/27/2005	On Tuesday November 22, HCU-942 experienced an operational upset resulting in flaring of the light naphtha product. The unit was increasing charge rate and reactor temperatures after being reduced due to the 11/19/05 upset.	130.87
WWTU-8742	F-WWTU-8742	11/27/2005 through 12/8/2005 12/09/2005	The RTO was shut down for an annual routine preventative maintenance turnaround. The planned maintenance was completed safely in a timely manner.	277.35
DCU-843	E-23-FLARE	11/29/2005	On Tuesday, November 29, 2005, DCU-843 experienced an unexpected operational upset resulting in an unscheduled unit shutdown. The unit was operating normally at approximately 100,000 B/D charge rate.	12.13
CRU-1344	F-366CT	11/30/2005 through 12/5/2005	It was determined that the potential unauthorized emissions from this event never reached or exceeded a Reportable Quantity (RQ) as defined by 30 TAC 101.1.84. Higher than normal VOC emissions were detected on 11/30/05 at Cooling Tower 360.	120.88
HFAU-443	F-13-FLARE	12/3/2005 through 12/4/2005	A pinhole leak was discovered in a weld on E-300C. 6341 was shutdown in order for proper repairs to be made.	24.00
Refinery	Refinery	12/9/2005	An incorrect solenoid valve replacement caused emissions in excess of the established limits in the ECIELT which was a violation of the permit 6825A and PSD-TX-49.	
SRU-545	E-03-SCOT	12/18/2005 through 12/19/2005	200 Train was put on heat soak at 21:00. The lubrimit fitting on the outboard bearing for K-1001B combustion blower broke off. The blower slowed down and the air to 200 Train cut back. 200 Train tripped off and caused the SO2 to go out of compliance at the SCOT III Incinerator stack.	7.05
SRTF	F17FLARE	12/19/2005	High pressure on M-3 HPA for J-24 compressor caused the flare regulator to open about 3% in order to vent the iso/pp mix.	4.75
SRU-543/4	E-01-SCOT	12/21/2005	300 Train tripped due to a boiler feed water swing at 18 BH. The emissions are a result of an air purge to 300 Train during the startup of 300 Train.	6.57
HFAU-443	F-13-FLARE	12/21/2005	Startup of 6341 after shutdown for repairs.	4.50

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
HFAU-443	F-443	12/21/2005	A gasket leak was discovered at LHSU-6341. Approximately 150 ft. of 4" line was depressured to the flare so maintenance could repair the gasket.	0.75
HFAU-443	F-244CT	12/22/2005 through 12/23/2005	On 12/14/2005, unit operations personnel noted that the cooling water pH was below normal operating limits. The Cooling Water Chemical Vendor made recommendations to suspend chlorine injection and monitor/log caustic addition.	27.88
HFAU-443	F-244CT	1/9/2006 through 1/10/2006	Upon further evaluation, it was determined that the emissions from this event never reached or exceeded any RQ as defined by 30 TAC 101.1(89). Higher than normal VOC concentrations were detected by a third party monitoring group during routine monitoring	26.13
HFAU-443	F-13-FLARE	1/19/2006 through 1/24/2006	PSV-123, the safety valve on the shell of C-27 was found to be leaking to the flare. The leak was discovered at approximately 13:30 on 01/24/06. It is estimated to have been leaking ~ 2 gpm for 6 days.	120.00
SRTF	F17FLARE	1/21/2006	J-24 Compressor was unable to compress light ends in IC4 received in 2156 TK. The light ends are suspected to be PP left in the truck from previous load(s). VOC represents "other" and does not have authorization at this EPN.	3.00
HFAU-443	F-13-FLARE	1/24/2006 through 1/25/2006	Operations found PSV-123, the safety valve on the shell of C-27, leaking to the flare. Operations isolated and depressured the entire NC4 deflourinator system because there aren't any valves to just isolate the PSV.	24.00
SRU-545	E-03-SCOT	1/27/2006 through 1/28/06	Air demands to 100 & 200 Trains had to be put into manual mode because the degassing control instrumentation was taken out of service in order to repair the Air Demand analyzer for 200 train. With the air controls in manual, it is more difficult for operations to control the combustion air flow. This resulted in higher than normal SO2 concentrations leaving the incinerator stack.	14.38
SGRU-1242	F-103FLARE	2/1/2006	This incident was originally report to TCEQ. Upon further investigation, it was determined that the emissions did not meet or exceed any RQs set by 30 TAC 101.1.(89).	1.17
SRTF	F17FLARE	2/2/2006	138 PH vented PP/Iso mix to the flare at CPC. The compressor was unable to compress light ends believed to be PP left over from the Iso trucks "back hauling." VOC represents "other" and does not have authorization at this EPN.	4.00
CRU-1344	F-18-FLARE	2/3/2006 through 2/4/2006	CRU-1344 started up the Debutanizer system after being shutdown for a while. The emissions were a result of lining out the tower. VOC represents "other" and does not have authorization at this EPN.	23.42
HFAU-443	E-01-443	2/10/2006 through 4/7/2006	Premcor received the results of a stack test (performed on 02/10/06) at the Alky heater (E-01-443) which showed HF emissions above the Flexible Permit (6825A) maximum allowable emission rate. Retesting of the heater on 4/1/06 indicated HF emissions continued to be higher than normal.	1349.45

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	2/12/2006 through 2/14/2006	Maintenance bled down a line to pull a blank after work on E-1475B Stripper Reboiler. VOC represents "other" as described in 30 TAC 101.201.	38.75
SRTF	F17FLARE	2/12/2006	138 PH vented PP/Iso mix to the flare at CPC. The compressor was unable to compress light ends believed to be PP left over from the Iso trucks "back hauling." VOC represents "other" as described in 30 TAC 101.201.	4.00
DCU-843	E-23-FLARE	2/13/2006	On Monday, February 13, 2006 at approximately 4:30 PM, DCU-843 Delayed Coking Unit experienced a trip of K-6300 Wet Gas Compressor.	1.85
DCU-843	E-23-FLARE	2/20/2006	On February 20, 2006, DCU-843 Unit experienced an unexpected upset on T-6500 Debutanizer Tower. The tower pressure increased rapidly and PSV-690 opened as designed to relieve excess pressure on the tower to Flare 23.	1.90
SRU-543/4, SRU-545, SCOT I, SCOT III	E-05-FLARE	2/21/2006	On February 21, 2006, the North Sulfur Complex experienced an operational upset. At approximately 05:58 PM the 400 Train tripped off line due to a high-high level in 401-F H2S Knock Out Drum that feeds H2S to the 400 Sulfur Train.	3.53
SRU-545, SRU-544, FGMD	E-03-SCOT	2/24/2006	On Friday, February 24, 2006, at approximately 8:10 AM, SRU-545 Sulfur Complex experienced an operational upset.	11.93
FCC-1241	F-22-FLARE	3/15/2006 through 3/16/2006	Maintenance depressured E-1475A, Stripper Reboiler to repair a leak. VOC represents "other" as described in 30 TAC 101.201.	23.25
FCC-1241	F-22-FLARE	3/20/2006 through 3/21/2006	Maintenance flared down/purged exchanger E-1475A to blank for maintenance to repair a leak.	27.67
SRU-543/4	E-01-SCOT	4/1/2006	Hydrocarbons in the Acid gas (unit charge) starved the units of air. This caused the SO2 concentrations to increase at F-101 & 402-B. F-101 was above 250 ppm SO2 from 03:30-03:55; 03:57-04:01; 04:13-04:17; & 08:41-08:43 (total duration = 1 hour, 7 minutes). 402-B was above 250 ppm SO2 from 03:13-03:20 & 03:28-03:34 (total duration = 15 minutes).	5.68
GFU-243	E-20-FLARE	4/17/2006 through 4/19/2006	GFU-243 was shutdown in order to replace the catalyst. These emissions are a result of the shutdown activity.	48.00
SGRU-1242	F-103FLARE	4/19/2006	On Wednesday, April 19, 2006, SGRU-1242, flared wet gas from approximately 1:41 pm to 2:45 pm. The SGRU was operating normally at the time of the unexpected flaring.	1.07
DCU-843	E-23-FLARE	5/1/2006	On Monday, May 1, 2006, at approximately 10:40 a.m., DCU-843 Delayed Coking Unit experienced an unexpected trip of K-6300 Wet Gas Compressor.	1.90

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
CRU-1344	F-18-FLARE	5/12/2006	Chloride salts routinely plug up the trays in the Depropanizer. These salts can be removed by "water-washing" the tower while it is in service. While water-washing the Depropanizer tower, propane got into the Debutanizer tower and caused the tower pressure to increase. The pressure increased until the Debutanizer Overhead was relieved (as designed) to the flare to prevent equipment damage. VOC represent "other" as described in 30 TAC 101.211.	2.18
HFAU-443	F-13-FLARE	5/20/2006 through 5/21/2006	E-6B Deflourinator and F-25 KOH Treater were taken out of service to replace spent catalyst (activated alumina) in the deflourinator. Operations used N2 to pressure the two vessels to a tank before de-pressuring to the flare. This is a conservative estimate assuming that the vessel was not pressured to the tank prior to the flare. VOC represents "other" as described in 30 TAC 101.211.	7.50
FCC-1241	E-01-WGS F-22-FLARE	5/30/2006	On 5/30/2006, FCCU-1241 experienced an unexpected unit upset. The unit was operating normally when the TP-1100 B Feed Pump tripped off at approximately 4:39 a.m. Initial attempts to restart the turbine driven feed pump were unsuccessful.	2.22
SRTF	F17FLARE	6/2/2006	J-24 Isobutane compressor was depressure to the flare for startup. VOC represents "other" as described in 30 TAC 101.211.	0.50
GFU-244	F-19-FLARE	6/7/2006 through 6/12/2006	GFU-244 was shutdown in order to change the catalyst. The majority of the emissions occurred while depressuring the unit in the first 72 hours.	131.00
HCU-942	E-23-FLARE	6/9/2006	Light ends entering the fractionator pressured up the tower and had to be relieved to the flare.	3.90
FCC-1241	E-01-WGS F-22-FLARE	6/18/2006 through 6/19/2006	On Sunday, June 18, 2006, FCCU-1241 experienced an unexpected unit upset. At approximately 10:55 a.m., Unit operations personnel received process alarms for high vibration on the turbine driver for K-1000B Air Blower.	15.08
SGRU-1242	F-19-FLARE F-103-FLARE	6/20/2006	On Tuesday, June 20, 2006, SGRU-1242 experienced an unexpected operational upset. K-2300 Wet Gas Compressor tripped off-line at approximately 4:10 p.m., resulting in an upset condition on the unit and flaring of Wet Gas.	0.83
SRTF	F17FLARE	6/22/2006 through 6/23/2006	138 PH took 2154 Tank out of service for an internal inspection. The sphere had to be evacuated in order for Maintenance to enter. VOC represents hexanes and heavier compounds.	25.50
HCU-942	E-23-FLARE	6/25/2006	HCU-942 temporarily experienced problems with the feed composition when they lost the LCGO & HCGO from the Coker (DCU-843). This resulted in a much lighter composition in the fractionator, which increased the tower pressure. The fractionator overhead stream was routed to the flare in order to help reduce the system pressure.	6.82
BH-15	F15FLARE F-BH-15	6/26/2006	On June 26, 2006, at approximately 5:29 AM, fuel gas was flared at Flare 15 due to an unexpected pressure increase in the Refinery Fuel Gas System. The Gas Dispatcher was alerted that the Absorber Gas Compressor had shut down.	5.47

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	6/29/2006	On Thursday, June 29, 2006, FCCU-1241 experienced an unexpected unit upset. At approximately 7:58 a.m., the reactor section system pressure began to increase.	0.87
HFAU-443	F-13-FLARE	7/5/2006	F-25 KOH treater was depressured to the flare for a dump & reload. VOC represents "other" as described in 30 TAC 101.211.	1.00
HFAU-443	F-13-FLARE	7/6/2006	The flow of butane was inadvertently restricted below the butane production rate for prolonged period at HFAU-443. The excess production was lined up to the Butane Side draw line from the T-5 Isostripper to the Butane Deflourination Section, which was blocked in at F-25 KOH Treater. F-25 was shutdown at the time for a catalyst turnaround. At the time of the restricted flow, there was also a steam leak in C-27R Preheater. A combination of these two activities resulted in a pressure increase. The pressure increase caused PSV-123 to open to the flare to relieve the pressure. The steam leak was not discovered until after the flaring began. VOC represents "other" as described in 30 TAC 101.201.	1.50
HFAU-443	F-13-FLARE	7/11/2006	F-25 KOH Treater was depressured to the flare to repair a plugged drain line on the vessel. VOC represents "other" as described in 30 TAC 101.211.	1.50
SRU-543/4	E-03-SCOT	7/21/2006	501-J Air Blower tripped offline at SRU-544 due to low air flow. This, consequently, tripped off 500 train and disrupted sulfur plant operations within the refinery. The trip resulted in higher than normal SO2 concentrations at 402-B Incinerator (5:53-6:06) & H-9002 Incinerator (5:39-9:47). Due to the shutdown of 500 Train, GFU-243 was put on circulation in order to reduce the acid gas make and increased the H2S concentrations in the North Side Refinery Fuel Gas system (6:00-6:15).	4.13
AVU-146	F-19-FLARE	7/21/2006	On Friday, July 27, 2006 at approximately 2:40 PM, both Vacuum Off-gas Compressors at AVU-146 tripped offline due to insufficient seal water supply. The compressors tripping caused the Vacuum Overhead system pressure to increase above design operating parameters. Vacuum Off-gas was relieved to Flare 19 as designed to reduce system pressure until the compressors could be restarted.	1.05
SRU-543/4	E-05-FLARE E-02-SCOT E-03-SCOT E-01-SCOT	7/27/2006 through 8/1/2006	On July 27, 2006, the North Sulfur Complex experienced an operational upset. At approximately 6:12 PM, SRU-544s 500 Claus Train tripped off due to the loss of 501-J Booster Air Blower. This increased the Acid Gas System pressure.	116.80
SRU-543/4	E-05-FLARE E-02-SCOT	8/1/2006 through 8/5/2006	Planned Startup of SRU-544 after SCOT-II was shutdown and 400 & 500 Claus trains put on heat soak so that the Rich-Lean Amine Exchanger could be inspected and repaired. SCOT II Recycle Gas was flared on 8/1/2006 16:54 for approximately 3 hours and 5 minutes.	81.00



Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	8/7/2006 through 8/8/2006	Maintenance water washed the Regenerator Blower's turbine drivers to wash out anticipated salt build up that could be preventing the blowers from operating at optimum efficiency.	15.17
SRU-543/4	E-01-SCOT	8/16/2006	SCOT I Incinerator (F-101) experienced higher than normal SO2 concentrations. The increased concentrations were caused by a combination of a line pressure swing from the South SRU and hydrocarbons in the Acid Gas from an undetermined source. The SO2 concentration was above 250 ppm for a total of 71 minutes.	2.87
DCU-843	E-23-FLARE	9/6/2006 through 9/7/2006	On September 6, 2006, at approximately 3:46 PM, the pressure controller for K-6300 Wet Gas Compressor, PV-2806 Flare Valve, opened as designed, allowing wet gas flow to Flare 23.	9.43
SRU-546	E-03-SCOT	9/10/2006 through 9/14/2006	Operations started up the new SRU-546 & SCOT IV. The emissions in this report are a direct result of the startup procedure. SCOT IV stripper overhead gas was routed to the flare, via a pressure controller, for a total of approximately three minutes.	103.48
DCU-843	E-23-FLARE	9/10/2006	A leak was found on the interstage cooler of the Wet Gas Compressor (K-6300). The unit was put on circulation so that the leak could be repaired. These emissions are a direct result of the unit being put on circulation.	1.63
FCC-1241	F-1241	9/21/2006 through 9/22/2006	On Thursday, September 21, 2006, FCCU-1241 Maintenance personnel were removing the isolation blanks on E-1475B Stripper Reboiler after the installation of a new reboiler exchanger shell and bundle.	24.08
SRU-545	E-03-SCOT	9/25/2006 through 9/28/2006	Operations executed a planned shutdown of SRU-545 (Sulfur Recovery Unit). The emissions in this report are a direct result of the shutdown procedure.	76.50
HFAU-443	F-13-FLARE	9/27/2006	Operations depressured T-5 Sidedraw from E-33A&B Coolers for Maintenance to repair tubes.	8.00
HFAU-443	F-13-FLARE	9/30/2006	During the startup of the T6 depropanizer, a false level indication resulted in PCV-68 opening and PSV-40 popping to the flare. PSV-68 was open for approximately 30 minutes and PSV-40 popped for approximately 20 minutes after the PSV opened.	0.83
HFAU-443	F-13-FLARE	10/1/2006 through 10/2/2006	The initiating cause of this incident was a failed motor for F-8 Isobutane charge pump. The motor overheated and shutdown.	17.43
MVCU	MC-24/25	10/6/2004	Failure to prevent visible emissions from the two Marine Vapor Combustors MC-24 and MC-25 on October 6, 2004.	0.22
SRU-546	E-04-SCOT E-05-FLARE	10/8/2006	Power Station 5 Switch Yard (PS 5 Switch Yard) contains two busses, Bus A & Bus B. The two busses are fed by 69 kV 1005A & 1005B circuits, respectively, from the Salt Grass substation.	7.00

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
DCU-843, HCU-942	E-23-FLARE	10/10/2006 through 10/11/2006	On October 10, 2006 DCU-843 (coker) experienced a unit upset. T-5200 coker fractionator bottoms pumps (recirculation and heater charge pumps) both experienced an excessive amount of coke fines which caused a loss of suction pressure.	17.75
SRU-545	E-03-SCOT	10/11/2006 through 10/14/2006	Operations executed a planned startup of SRU-545 (Sulfur Recovery Unit). The emissions in this report are a direct result of the startup procedure.	61.37
DHT-246	E-23-FLARE	10/17/2006 through 11/3/2006	The emissions in this report are a direct result of the commissioning and initial startup activities for the new DHT-246. The unit was pressured up with hydrogen and then purged to the flare several times on October 17 & 18.	416.25
CRU-1344, FCC-1241, GTU-245, GFU-244, SGRU-1242, SRU-543	F-103FLARE F-22-FLARE E-01-WGS E-01-SCOT	10/18/2006 through 10/20/2006	On October 18, 2006, the Port Arthur Refinery was in the process of upgrading the electrical supply system in the refinery. The project included isolating electrical power from Entergy at 5 Power Station (PS).	36.78
SRU-545	E-03-SCOT	10/24/2006	SCOT III Inline Heater unexpectedly tripped off due to electrical issues. This resulted in higher than normal SO2 concentrations at the incinerator stack. Visible emissions could be seen from the Incinerator stack for a few minutes when the upset first began.	3.30
FCC-1241	F-22-FLARE	10/25/2006	At approximately 1:00 PM, on Wednesday, 10/25/06, the pressure transmitter for the Depropanizer Overhead Coolers Bypass Control Valve, PC-1601, began reading inconsistently with the tower bottoms pressure and the drum pressure.	2.00
ATU-7842	E-23-FLARE	11/6/2006	On Monday, November 6th, 2006, the DHT-246 (Diesel Hydrotreater) unit was going through its initial start-up. Rich amine from DHT-246 was being routed to ATU-7842 (Amine Treating Unit) for treatment, with the acid gas being routed to flare.	1.27
SRU-543/4/5	E-02-SCOT E-01-SCOT E-05-FLARE	11/12/2006 through 11/13/2006	On Sunday, November 12, 2006, at 12:30 AM, the north SRU complex units began to go off ratio due to hydrocarbons in the feed. Operations immediately began to add air to try and get back in ratio.	23.52
AVU-146	F-19-FLARE	11/15/2006	On November 15, 2006, AVU-146 Crude Unit experienced an unexpected unit upset. C-102 and C-102B Vacuum Gas Compressors tripped off-line. Both compressors experienced high temperature alarms and trips.	1.43

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
RFG System	E-01-SCOT F-103-FLARE E-05-FLARE E-01-146 E-01-1344 E-02-SCOT F-22-FLARE F-13-FLARE	11/23/2006 through 11/25/2006	On Thursday, November 23, 2006 at approximately 4:18 PM the main feeders to Power Plant 1 (PP1) from Saltgrass Substation tripped as a result of a ground fault on the refinery 13.8 kV system.	41.25
DCU-843, DHT-246, HCU-942, SGRU-1242, All Heaters	F-103FLARE E-23-FLARE E-01-WGS E-04-SCOT E-05-FLARE E-01-SCOT F-BH-15	11/26/2006 through 12/5/2006	On Sunday morning, November 26, 2006, Operations personnel discovered a one-alarm fire on the insulation of the DCU-843 (Coker) blowdown line (inlet line to D-4000 Blowdown drum).	208.05
FLARE-05, SCOT-I, SCOT-II, SCOT-IV, SRU-544	E-23-FLARE E-05-FLARE	12/7/2006 through 12/10/2006	On Wednesday, December 7, 2006, at approximately 10:30 a.m., maintenance personnel discovered oil on the insulation of a 36 inch line near D-4000 blowdown drum on DCU-843.	79.17
HFAU-443	F-13-FLARE	12/7/2006	Operations depressured E-33A&B in order to repair a VOC leak on C1-2A normal butane condensers outlet nozzle.	4.00
FCC-1241, BH-15	F-BH-15	12/11/2006 through 12/12/2006	On December 11, 2006 FCCU-1241 experienced an operational upset. K-1900 Absorber Gas Compressor tripped unexpectedly at approximately 4:36 p.m.	22.17
FCC-1241	F-22-FLARE	12/16/2006	Operations shutdown K-1900 absorber gas compressor so Maintenance could safely work on the compressor control system. A representative from the compressor manufacturer was on-site to assist with troubleshooting.	3.38
DCU-843	E-23-FLARE	1/1/2007	On January 1, 2007, DCU-843 experienced an unexpected operational upset. The debutanizer tower and overhead system pressure increased and excess system pressure was relieved through process safety valve, PSV-690, to Flare 23.	0.18
FCC-1241	F-22-FLARE	1/6/2007	Operations shutdown K-1900 absorber gas compressor so Maintenance could safely adjust the settings on the compressor control system. A representative from the compressor manufacturer was on-site to assist with troubleshooting.	4.05
GFU-243	E-20-FLARE	1/7/2007 through 1/8/2007	Operations will startup GFU-243 (Gulfining Unit) after being shutdown for a planned unit turnaround.	24.00

Process Unit	Emission Point	Date	Description	Duration (Hrs.)
FCC-1241	F-22-FLARE	1/9/2007	K-1900 absorber gas compressor unexpectedly tripped offline on two different occasions. When the compressor tripped, absorber gas was routed to the flare.	13.08
AVU-147	E-23-FLARE	1/13/2007 through 1/14/2007	Operations plans to startup the new AVU-147 (Atmospheric & Vacuum Unit).	24.00
FCC-1241, SRU-543, SRU-545	F-22-FLARE E-01-SCOT E-03-SCOT	1/16/2007	An off-site steam producer experienced an upset with their steam turbine generator. The upset caused their 650 psi and 125 psi steam header pressures to decrease. The Premcor Port Arthur Refinery consumes steam from these headers to run turbines on various types of equipment. The decrease in the steam header pressures caused interruptions in process equipment which led to unit upsets.	6.33
SRU-544, SWS-8746	E-05-FLARE E-02-SCOT	1/27/2007 through 2/3/2007	Operations plan to shutdown SWS-8746 (Sour Water Stripper) and SRU-544 (Sulfur Recovery Unit), including SCOT II Tailgas Incinerator, as part of a planned unit turnaround.	168.00
HCU-942	E-23-FLARE	2/1/2007 through 2/4/2007	Operations will shutdown HCU-942 (Hydrocracker) for a planned unit turnaround.	72.00